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Accidental Drug Poisoning

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Objective: To study the accidental drug poisoning.

Design: A retrospective study.

Setting: Prince Rashid Ben Al- Hassan Hospital- Northern Jordan.

Method: Children with accidental drug poisoning, who were admitted to Prince Rashid Hospital from January 2001 to January 2005.

Result: Fifty-nine children have been enrolled in the study; thirty-six (61%) were male. Thirty-two (54%) of children belong to the age group of 1- 4 years. Twenty-nine (49%) children had ingested miscellaneous drugs, 15 (26%) anticonvulsant drugs, 5 (8%) anti-psychotic drugs, and 6 (10%) children had ingested drugs for local use and 4 (7%) unknown. In 5 (8%) children the drug had been ingested due to unidentified identity. In 2 (3%) the drug was given by mistake to the child. Eighty-eight percent of drug ingestion took place at homes. Lack of supervision at the time of ingestion was noted in 52 (89%) of cases. Drowsiness was the most common presenting features (24%). Gastric lavage was done in 27 (46%) children.
Conclusion: - Drug poisoning is still a major health problem in our community. Family should be aware of the problem and health professionals should participate in preventive measures. This study emphasizes the need for establishment of poison control centers all over the country.

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Accidental drug poisoning continues to be an important health threat worldwide. It is particularly a problem among children under the age of 5 years. According to the American Toxic exposure surveillance system, more than 2.2 million poisoning exposures were reported in 1998, of which 1.5 million were children [(1).]

In this retrospective study we have had the opportunity to study childhood accidental drug poisoning in our hospital to determine the types of drug ingested, sex and age distribution, poisoning events, clinical manifestations and management.

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METHOD

A retrospective analysis of the records of all children with accidental drug poisoning who were admitted to Prince Rashid Hospital over four years period, between January 2001 to January 2005. The analysis included the age, sex, and drug ingested, poievents, clinical manifestations and treatment.

RESULT

Medical records of 59 children admitted to our pediatric ward were reviewed. Thirty-six (61%) were male and 23 (39%) were female. Children age groups were in the range of 1- 4, 5-9 and 10-14 years are 32, 15, and 12 children respectively (Table 1).

Table 1: - Age Distribution

Age (years)	No. Of children	%
1-4	32	54%
5-9	15	26%
10-14	12	20%

The drugs ingested by children were classified into 5 groups; miscellaneous drugs 29 (49%), anticonvulsant drugs 15 (25%), drugs for local use 6 (10%), anti-psychotic drugs 5 (9%), and unknown 4 (7%) (Table2).

Table 2: Drugs Group Classification

Drug group	No. Of children	%
Miscellaneous drugs	29	49%
Anticonvulsant drugs	15	25%
Drugs for local use	6	10%
Anti-psychotic drugs	5	9%
Unknown	4	7%

The most common of the miscellaneous group were paracetamol 6 (21%) and multivitamins 6 (21%) (Table 3).

Table 3: - Miscellaneous Drugs 29

Drug	No	%
Paracetamol (Revanin)	6	21%
Multivitamins	6	21%
Anti-histamine	4	14%
salbutamol (Asmadil)	4	14%
Iron	3	10%
Antibiotics	2	7%
Menthol vapor	1	3%
Dapsone	1	3%
Anti-hypertensive	1	3%
Oral hypoglycemic drug	1	3%

Phenobarbitone (luminal) accounted for 33% of the anticonvulsant drugs ingested (Table 4).

Table 4: - Anticonvulsant Drug 15

Drug	No	%
Phenobarbitone (luminal)	5	33%
Carpamepazine (tegretol)	4	28%
Diazepam	2	13%
Sodium valoproate (Convulex)	2	13%
Phenytoin sodium (Epanutin)	2	13%

The common drugs for local use were skin disinfectant (33%) and anti-pruritic drugs (33%) (Table5).

Table 5: - Drugs For Local Use 6

Drug	No	%
Skin disinfectant	2	33%
Anti-pruritic drugs (calamine lotion)	2	33%
Eye drops (gentamicin)	1	17%
Whitfield skin ointment	1	17%

Imipiramine (tofranil) comprise 60% of anti-psychotic drugs ingested (Table 6).

Table 6: - Anti-Psychotic Drugs 5

Drug	No	%
Imipiramine (tofranil)	3	60%
Chlorpromazine	1	20%
Haloperidol	1	20%

In 52 (88%) of drug ingestion was at home, while in 7 (12%) was outdoor. Five (8%) children had ingested the drug due to unidentified identity. In 3 cases the drug was taken due to their color and sweet taste. In the other 2 cases mistake occurred because drugs were kept with other drugs in same container.

In 2 (3%) children, the mother gave the drug by mistake to the child due to misunderstanding of the route of administration. The first child was given menthol vapor and the other child calamine lotion.

In 46 (78%) of cases, the drugs were easily reachable by the children. Lack of supervision at the time of ingestion was noted in 52 (89%) of cases.

Thirty-two (54%) children presented with clinical manifestations. Drowsiness was the most common presenting features (24%), (Table 7).

Table 7: Clinical Manifestation Of Children With Poisoning

Clinical features	No. of children	%
Drowsiness	14	24%

Thirty-three (56%) children were admitted within 2 hours of drug ingestion, 17(29%) children 2 to 4 hours, 5(8%) after 4 hours and in 4 (7%) children, the time was unknown. Gastric lavage was done in 27 (46%) children. Of them 2 children were given activated charcoal and N-Acetyl-cyctiene as anti-dote to paracetamol. One child with iron poisoning was given Intravenous Desferoxamine. Metheylene blue was given to 1 (2%) child who had ingeted dapsone.

Thirty-one (52%) children were kept for observation and none needed treatment.

DISCUSSION

The male predominance in our study is a feature common in most series of childhood poisoning. Children under 5 years of age that constituted 54% in our study (table 1). Many previous studies have shown that children under 5 years of age are particularly at risk from accidental poisoning [2,3]. According to united states poison control center data, more than 2 million human poison exposure cases occurred in 1995. Children less than 6 years of age accounted for 53% of cases[4].

Anti-convlusants represents 25% of cases; Phenobarbitone was the predominant drug ingested (Table 4). Anti-psychotic drugs accounted for 9% of cases; imipiramine (tofranil) being the most common drug ingested (Table 5). Kasilo reported that some of the most frequently implicated therapeutic agents were anti-psychotic 12.4% and anticonvulsants 8.2%[3]. Also, almost the same is reported by Julie L Hoy et al [(5)] to be ingested by children less than 5 year of age.

The drugs for local use comprise 10% of all cases (Table 6); these containers are often kept alongside the child's drink.

The American Toxic exposure surveillance system reported in 2001 that approximately 90% of toxic exposure occurred athome[6]. In this study 88% of drug ingestion took place at home.

In this study, altered level of consciousness in form of drowsiness was the most common presenting feature (24%). Oculogyric crises was seen in 1 child with chlorpromazine ingestion (table 7). Fazen LE, et al reported that 64% of children with acute drug poisoning were found to have altered sensorium, and 69% of cases were confirmed with a routine qualitative toxicology-screening test[7]. Unfortunately, we do not have toxicology –

screening test in our area. The most indicator of poisoning was the history and some drugs sample brought by parent.

Although many studies show that Gastric lavage should not routinely be done. There is no definite evidence that it improves the outcome and it may cause needless complications[8,9,10]. Gastric lavage was performed in 27 (46%) children who were presented within 2 hours of ingestion and fortunately none of them had any complication.

CONCLUSION

Drug poisoning is still a major health problem in our community. Family should be aware of the problem and health professionals should participate in preventive measures. We have to emphasize the need for establishment of poison control centers all over the country.

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Table 7: Clinical manifestation of children with poisoning

Clinical features	No. of children	%
Drowsiness	14	24%
Vomiting	5	8%
Abdominal pain	3	5%
Ataxia	3	5%
Tremor and tachycardia	3	5%
Choking	1	2%
Convulsions	1	2%
Cyanosis	1	2%
Oculogyric crises	1	2%